NEWS AND NOTES

WATER THE WAY FORWARD

CAUVERY: Geography – Science – Mathematics

Keeping in view the importance of water management Vandhe Bharatham (an NGO), Bengaluru organized one day seminar with an agenda to discuss climate change, surface water resources, ground water; geomorphology; agriculture and cropping pattern; drinking water and sanitation in urban and rural areas; forest and environment and management of water resources and also the Cauvery basin area. The seminar was held at J.N.Tata Auditorium on 10th December 2016. Former Prime Minister Shri Devegowda inaugurated the seminar. Several scientists, engineers, vice chancellors, seers, farmers, and tribal leaders participated in the day long event. Shri B.H. Lokesh, Vandhe Bharatham led the team in association with Karnataka Jalbiradari and the Geological Society of India, Bengaluru.

Keynote Address

Dr. Rajendra Singh, Waterman of India, delivered the keynote address at the seminar. He observed that the world is passing through a critical stage and may end up in global wars due to water scarcity. Signs of such conflicts were seen in countries like Syria in Middle East. Therefore, to save our planet from devastating wars he appealed for protection of valuable water. People of Karnataka and Tamil Nadu have invested huge amounts of money in development of water resources but what is important is proper water management. He observed that solution to Cauvery dispute cannot be found by knowledge of science, math’s and geography alone. It needs socio-political solution involving concerned communities. He is critical that today’s education system has taught exploitation, extraction and pollution of natural resources and suggested that education system should be revamped and academia should inculcate values among students to respect and conserve natural resources.

Shri H.D. Devegowda, former Prime Minister of India, in his address applauded the efforts of Vandhe Bharatham and recollected his association with the issue of Cauvery as Minister and Chief Minister of Karnataka and Prime Minister of India. He expressed his satisfaction on the Seminar being conducted to discuss such an important issue. He called on scientists and farmers alike to think and adopt new methods and techniques to optimum utilization of water by adopting appropriate cropping patterns to get the maximum benefit out of minimum use of water. He stressed the need for close co-ordination and co-operation of scientists and farmers of Cauvery basin for a better future.

Shri Shivarudra Swamiji, the Head, Beli Mata, appreciated the efforts of Vandhe Bharatham in organizing the seminar to discuss the Geography, Science and Maths related to Cauvery basin natural resources. He observed that there is enough in nature to meet the needs of man, but because of the increased demand of man, nature is being abused through deforestation etc., which has resulted in decreased rainfall and climate change. Swamijee in his blessings stated that man should learn to respect the nature and adjust to it, instead of spoiling the environment through over exploitation and pollution.

Sri Sri Dr. Nirmalananda Mahaswamiji, the Head of Shri Adichunchanagiri Mahasamsthana Math in his blessings underlined the need of taking science to the gross root level and to educate the farmers to select the crop patterns depending upon the type of soil, climate and the quantum of water available. He emphasized the need of crop rotation and cautioned against increased application of chemical fertilizers that would lead to increased salinity making the land unfit for agriculture.

Presentation of Papers

The following presentations (Table 1) were made by different groups in the seminar on Cauvery.

Photo-1. (From L to R). Dr. Y.N. Yellappa Reddy, Environmentalist, Sri Siddalinga Mahaswamiji, Shri Shivarudra Swamiji, Beli Mata, Shri H.D. Devegowda, Sri Sri Dr. Nirmalananda Mahaswamiji, Padmashree Dr. H.C. Mahadevappa, Vice Chancellor, Agriculture University, Dr. Shivanna, Vice Chancellor, UAS, Bengaluru, Sri Rajendra Singh, Waterman of India. Photo-2. Lighting of the lamp by the dignitaries, Shri B.H. Lokesh of Vandhe Bharatham is at extreme left.
It was emphasized that the approach to water resources management in the Cauvery basin should consider “catchment-reservoir-command area-continuum” and suggested to form a Cauvery Forum to take up Resource Mapping under RDPR as detailed below.

Village-level maps on 1:10,000 scale (approximately equivalent to Cadastral Maps) indicating the extent of cultivable land should be shown in yellow colour indicating surface water irrigated land and ground water irrigated land in different colours with position of bore wells and open wells and surrounding uncultivated area. Depth of water table should be indicated and principal crops grown listed. A cross section of the well should be included as an inset, showing soil depth, weathered and hard rocks and probable depth at which water is likely to be struck. Seasonal fluctuation in water table should be shown. Attempt should be made to show the marginal land which could be used as recharge area by constructing series of surface storage tanks in the recharge area for storing rain water.

Action plan maps for basin, sub-basin, macro and micro basins with 1st, 2nd and 3rd order streams with an estimated cost for desilting recharge areas by constructing series of surface storage tanks in the recharge area for storing rain water.

Finance: Rural development funds should be allotted with a clear picture to develop natural resources of water, mineral and forests demarcating micro basins on village scale maps with 5(m) interval contours to demarcate contour bunds superimposed by high resolution satellite imagery (Quick Bird satellite data on 0.6 m resolution). Officers of the Department of Mines and Geology & Central Ground Water Board in co-ordination with minor irrigation engineer, KUWSDB engineer, Pollution Control Board, Forest and Agriculture officers should prepare maps on war footing enlistling the services of undergraduate and graduate students of colleges situated within the sub-basin and micro basins. Committee headed by CEO ZP with local MLA, Parliament members and Panchayat Board members of the sub-basin should meet two times in a year before the rainy season (June) and after January to review the work done in the sub-basin and micro basins with the help of subjects experts of Geomorphology, Irrigation, Hydrology, Agriculture and Environment, nominated from Earth Science associations.

Concluding Session

Institutions: Water is now controlled by different departments e.g., major irrigation, minor irrigation, major tanks, minor tanks, ground water; watershed development, Forest Department, Urban Water Supply, Corporate Water Supply, Rural Water Supply, etc. Funds distributed in different departments will not solve the problems of time bound progress and optimum utilization of funds. There is an urgent need to approach the problem taking “catchment-reservoir-command area-continuum” at each of the hydro-geomorphological unit and entrust responsibilities to appropriate institutions and make them accountable to one agency like Zilla Panchayat to be reviewed periodically at regular intervals by a Committee headed by Incharge District Minister and Secretary to Government. It is suggested to take up natural resource management by an institute with emphasis on water in a Cauvery basin on a trial basis and allot funds from different sources at one outlet for decentralized development of sub-basins, macro and micro basins management. Management of water resources in these areas shall be participative with necessary legal and institutional changes with an ultimate goal to transfer operation, maintenance, management and collection of water charges and royalty on other resources by user groups at village level.

Cauvery basin as a whole should be taken up for basin management and mapped on scale 1:250,000 based on topomaps and satellite imageries. Sub-basins tributaries of Cauvery river should be mapped on 1:50,000 scale showing cropping patterns, forest areas, solar and wind power areas, different soil and mineral zones. Macro basin of tributaries should be further broken up and mapped on scale 1:25,000. Further 1st, 2nd and 3rd order streams of micro-basins should be mapped on cadastral scale 1:8000 with survey numbers to demarcate aquifers, cropping pattern and rural drinking water supply schemes. These maps should be overlaid on Cartosat images to prepare action plan.